

What is claimed is:

1. A retainer for buttressing an element subjected to forces applied substantially in one direction, the retainer comprising:  
a support;  
a plurality of members extending from the support, each member being spaced apart from the next successive member and defining an abutment surface; and wherein  
the abutment surfaces of the plurality of members defining a bearing surface adapted to engage the element when the forces are applied.
2. The retainer of claim 1 wherein the bearing surfaces and the element cooperate such that the element adopts a generally fair contour when the forces are applied.
3. The retainer of claim 2 wherein the member has an aspect ratio greater than 3.
4. The retainer of claim 2 wherein the support has a surface and the surface is part of the abutment surface.
5. The retainer of claim 1 wherein the member has an aspect ratio greater than 3.
6. The retainer of claim 5 wherein the member has an aerodynamic orientation to the support.
7. The retainer of claim 1 wherein the housing defines a hinge, the hinge defining a first and second part.
8. A method of manufacturing a retainer, the method comprising the steps of:  
providing a plate;

cutting in the plate a pattern defining a support, a plurality of members extending from the support, each member being spaced apart from the next successive member; each member having an abutment surface and  
5 rotating each member thereby aligning the abutment surfaces defining a bearing surface, the bearing surface being adapted to engage the element.

9. The method of claim 8 wherein the abutment surface cooperates with  
10 the element such that the element adopts a fair contour when the forces are applied.

10. The method of claim 8 wherein the member has an aspect ratio greater  
15 than 3.

11. The method of claim 10 wherein the member is rotated to an angle of  
between 60 and 120 degrees relative to the support.

12. The method of claim 8 wherein in the cutting step an offset is created  
20 permitting an edge of the member to align with a surface of the support after rotation of the member.

13. A catalytic reactor comprising:  
a reactor housing having an interior and a cross-section;  
25 a retainer comprising a support, a plurality of members extending from the support, each member being spaced apart from the next successive member and having an abutment surface, the abutment surfaces defining a bearing surface, the bearing surface being sufficient to extend substantially across a relevant  
30 portion of the cross-section, the retainer having a cross-section slightly less than the cross-section of the housing, the retainers positioned within the interior across the cross-section such that the abutment surfaces are opposed;  
a catalytic element positioned between the retainers;

an inlet housing engaging the reactor housing and defining an  
impingement surface for the support of the retainer, and  
an outlet housing engaging the reactor housing and defining an  
impingement surface for the support of element.

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14. The catalytic reactor of claim 13 wherein the abutment surfaces and the  
element cooperate such that the element adopts a generally fair  
contour when the forces are applied.

10 15. The catalytic reactor of claim 14 wherein the member has an aspect  
ratio greater than 3.

16. The catalytic reactor of claim 14 wherein the support has a surface and  
the surface is part of the bearing surface.

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17. The catalytic reactor of claim 13 wherein the member has an aspect  
ratio greater than 3.

18. The catalytic reactor of claim 16 wherein the member has an  
aerodynamic orientation to the support.

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19. The catalytic reactor of claim 13 further comprising an other retainer  
positioned between the outlet housing and the elements.

25 20. A retainer for buttressing an element subjected to forces applied  
substantially in one direction, the retainer comprising:  
a support having a surface;  
at least one member extending from the support, each member  
defining an abutment surface; and wherein  
30 the support defines deflection means adjacent at least one member  
such that the member can expand and contract independently of the  
support.

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21. The retainer of claim 20 wherein the surface and the abutment surface  
align.

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22. A catalytic reactor comprising:

a reactor housing having an interior and a cross-section;

a retainer comprising a support having a surface;

at least one member extending from the support, each member

5 defining an abutment surface; and wherein the support defines  
deflection means adjacent at least one member such that the  
member can expand and contract independently of the support,  
the retainer having a cross-section slightly less than the cross-  
section of the housing, the retainers positioned within the  
10 interior across the cross-section such that the abutment surfaces  
are opposed;

a catalytic element positioned between the retainers;

an inlet housing engaging the reactor housing and defining an  
impingement surface for the support of the retainer, and

15 an outlet housing engaging the reactor housing and defining an  
impingement surface for the support of element.

24. The retainer of claim 23 wherein the surface and the abutment surface  
align.